

Serial No. 10/500,718

BOTTKE et al.

PF 53209

The Examiner rejected Claims 1, 2 and 5 to 10 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of *Wender et al.* (US 2,682,562). The Examiner acknowledged in her summary of the reference that the teaching provided for a procedure in which aromatic aldehydes and aromatic alcohols are reduced in the presence of a carbonyl of cobalt. The Examiner also noted that prior art catalyst may be formed in situ by adding the finely divided metal, or an organic or inorganic salt of the metal to the reaction mixture. The Examiner argued, however, that applicants' process differed from the procedure of *Wender et al.* only in that the starting materials and the final products of applicants' process contained additional hydroxyl or methoxy groups.

Applicants respectfully urge that the claimed process further differs from the procedure of *Wender et al.* in the particularities of the catalyst. As emphasized in the revised wording of Claim 1 presented herewith, the catalytically active constituent of the catalyst which is employed in accordance with applicants' invention consists essentially of

- (a) at least one metal and/or at least one oxide, hydroxide or salt of a metal selected from the group consisting of cobalt, nickel and copper;
- (b) from 0 to 50% by weight of one or more metals and/or one or more oxides, hydroxides or salts of a metal selected from the group consisting of platinum, rhodium, iron, silver, molybdenum, tungsten, manganese, rhenium, zinc, cadmium, lead, aluminum, zirconium, tin, phosphorus, silicon, arsenic, antimony, bismuth, titanium and rare earth metals, and
- (c) from 0 to 5% by weight of an alkali metal oxide or alkaline earth metal oxide, alkali metal hydroxide or alkaline earth metal hydroxide, or alkali metal salt or alkaline earth metal salt.

Where cobalt is present in the catalytically active component of the specified catalyst the cobalt is therefore present in metal form or in form of an oxide, hydroxide or salt.

In contrast thereto, *Wender et al.* specifically point out that the catalytically effective component of the catalyst is the metal carbonyl.²⁾ In fact, *Wender et al.* stress that the concentration of carbon monoxide in the reaction zone has to be maintained at a suffi-

2) Cf. col. 3, indicated lines 42 to 45, and indicated lines 65 to 75, of US 2,682,562.

060731

- 2/7 -

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Serial No. 10/500,718

BOTTKE et al.

PF 53209

cient level in order to prevent decomposition of the catalyst.³⁾ A carbonyl is, however, not a salt, so that the active component of the catalyst which is employed in the procedure of *Wender et al.* is not within the realm of component (a) of the catalytically active composition of applicants' catalyst. Moreover, the teaching of *Wender et al.* contains nothing which would have motivated a person of ordinary skill in the art to contemplate a catalytically active composition which consists essentially of the components (a) to (c) as is required in accordance with applicants' invention. Essentially, based on the explanations and remarks of *Wender et al.* a person of ordinary skill could not reasonably expect that a composition consisting essentially of applicants' components (a) to (c) could be successfully employed as a catalytically active component of a catalyst in a hydrogenation of aromatic carbinols.⁴⁾ It is therefore applicants' position that the teaching of *Wender et al.* cannot be considered to render the process which is defined in Claim 1 and further specified in Claims 2 and 5 to 10 obvious within the meaning of Section 103(a).

Favorable reconsideration of the Examiner's position and withdrawal of the respective rejection is therefore respectfully solicited.

Further, the Examiner rejected Claims 1, 2, 5, 6, 9 and 10 under 35 U.S.C. 103(a) as being unpatentable in light of the teaching of *Nightingale et al.* (*J. Organic Chemistry*, 14, 1089-1093 (1949)). However, as pointed out by the Examiner, the hydrogenation which is addressed in the *Nightingale et al.* reference is conducted in the presence of a copper-chromium oxide catalyst.

Applicants specifically point out as one of the objects of the claimed invention that chromium-containing catalysts are avoided.⁵⁾ The presence of chromium or compounds thereof in the catalytically of the catalyst which is employed in applicants' process is, therefore, clearly excluded when applicants require that the active constituent consist essentially of the components (a) to (c).⁶⁾

3) Cf. col. 1, indicated lines 45 to 50, of US 2,682,562.

4) *In re Vaack*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

5) Cf. page 2, indicated lines 30 to 33, and indicated line 39 et seq., of the application.

6) The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) (emphasis in original). See also *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1240-41, 68 USPQ2d 1280, 1283-84 (Fed. Cir. 2003).

060731

- 3/7 -

Serial No. 10/500,718

BOTTKE et al.

PF 53209

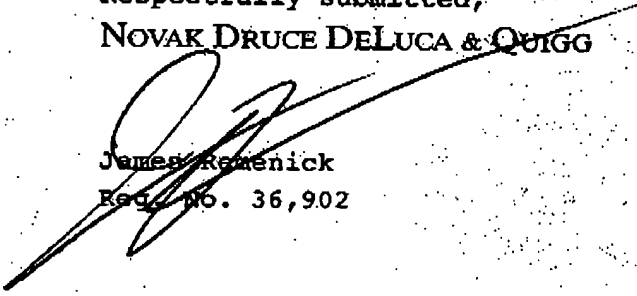
Applicants' process differs from the procedure of *Nightingale et al.* accordingly not only in the particularities of the starting compounds and final products but also in the particularities of the catalyst which is employed in the hydrogenation reaction. Moreover, the *Nightingale et al.* reference contains nothing which would have motivated a person of ordinary skill in the art to omit chromium from the catalyst, ie. to take the steps which are necessary to arrive at applicants' invention, with a reasonable expectation of success. The teaching of *Nightingale et al.* is therefore also not deemed to be suited to render applicants' invention as defined in Claim 1 and further specified in Claims 2, 5, 6, 9 and 10 obvious within the meaning of Section 103(a).

Favorable reconsideration of the Examiner's position and withdrawal of the respective rejection is therefore respectfully solicited.

The Examiner indicated that Claims 3 and 4 would be allowable safe for their dependence upon a rejected base claim. Accordingly and in light of the foregoing and the attached, all claims should be allowable and the application should be in condition for allowance. Early action by the Examiner is respectfully solicited.

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Respectfully submitted,
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Encl.: CLAIM AMENDMENTS (Appendix I)

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060731

- 4/7 -